



In its standard version, the electric porewater pressure transducer Type PWE consists of a rust-proof and acid-resistant ceramic filter, which is inserted in water-saturated condition in the foundation or borehole. Behind the filter is a small water chamber. The water pressure in this chamber is measured by a piezoelectric pressure sensor. All parts of the pressure sensor housing are made of special steel (see Fig. 1).



Fig. 1 Electric porewater transducer Type PWE

The pressure sensor is available with various measuring ranges to match the anticipated piezometric pressures (see page 2).

The transducer cable has a capillary tube, through which fluctuations of atmospheric air pressure have the same impact in the pressure transducer housing as in the ground water. Hence the only changes measured at the sensor membrane are those due to level fluctuations.



Prior to installation, the filter must be wet with low-surface-tension water and the filter chamber filled with bubblefree water. This is done by unscrewing the filter tip. After filling, the filter tip is screwed back in place (make sure that the O-rings above and underneath the ceramic filter sit properly in their guide slots). The porewater pressure transducer should be stored under water until it is installed in the foundation.

The porewater pressure transducer type PWE is also used to observe the ground water level in gauge pipes.

Technical Data

Filter	Ceramic
Standard	1.5 µm pore diameter
Option	Sintered metal filter
Selectable pressure ranges	0...0.1; 0...0.16; 0...0.25; 0...0.4; 0...0.6; 0...1; 0...1.6; 0...2.5; 0...4; 0...6; 0...10, 0...16; 0...25 bar
Overload capacity	1.5 x measuring range
Burst strength	4 x measuring range or max 200 bar (the smaller value defines the maximum value)
Output	0...5 V, others optional
Statistical fault tolerance band	Typical ± 0.5 % fs,
Temperature range compensated	0...70° C
Installation depth	up to 200 m, more by agreement
Weight	375 g
Length	130 mm
Diameter	35 mm

**Sales Information**

- 5.2.2.1 Porewater pressure transducer
type PWE
measuring range see page 2
- 5.2.2.2 Special cable with
capillary tube for pressure balance
- 5.2.2.3 Manual indicating instrument,
battery-operated
- 5.2.2.4 Stationary data logger with 6 channels
for accumulator or battery operation,
installed in steel housing 300 x 300 x 200 mm.
Standard mono cell batteries or accumulator
can be used
- 5.2.2.5 Software for data logger
- 5.2.2.6 Laptop with software for data
read out and data logger programming